Interim Education Funding Committee
June 2, 2014

Mr. Chairman, members of the committee, my name is Wayne Kutzer, I am the Director of the ND Department of Career and Technical Education.

Career and Technical Education has been in the fabric of K – 12 education officially for over 100 years. The degree of rigor and integration of academics into CTE has steadily and continues to increase, but the pedagogy, the method of teaching has remained central to the learning that takes place in CTE. Part of the reason CTE has not necessarily been associated with rigor probably relates to that pedagogy – the "hands-on" learning as we all have come to know it by. Rigor has generally been associated with classroom learning and core subjects. But in today's workplace environment the demand is for increased rigor. ND CTE has addressed rigor in a number of ways, such as adopting industry standards and placing a major focus professional development. Whether it is our summer Professional Development Conference, where we have about 80% of active CTE teachers attend, or more specifically the "Math or Science in CTE" workshops where pair up of the academic instructors and CTE instructors to create actual lesson plans on how to deliver math concepts through practical applications, increasing rigor is front and center.

So let's talk about student performance. We gathered data from our past three year's federal accountability report and our state's AYP reports, and have been able to put together some eye opening statistics that support the idea that there is rigor in CTE. It is as much about what we teach as how we teach it. The data you have in front of you outlines the impact that CTE can have on math, language arts, and high school graduation rates. This data shows CTE concentrators – those students who take two or more credits in a single program area pathway,

and how they performed on the ND State Assessment in math, language arts and graduation rates. Here is a piece of evidence based data that shows CTE does have an impact on student performance.

Handouts: "Performance of CTE Concentrators" – review of the data.

- Data represents 3,253 concentrators who are seniors, which is 44% of the 7,338 seniors statewide.

  "Three Year Trend Data on CTE Enrollment" - which will provide some perspective on the numbers of CTE students.
- While the number of students who took at least one CTE class has remained fairly constant, just under 21,000 in any one year, the number of concentrators has grown over the past three years from 7,093 to 13,024, grades 9 – 12.
- The state's CTE scholarship along with a greater emphasis on career planning has definitely had an impact. The scholarship requires students to take four CTE credits; two credits must in a single career pathway.
- Students are focusing on a CTE pathway that interests them and can relate what they are learning to their future goals.
- Areas of interest are revealed by the specific cluster in which students concentrate in.

So why do they perform at the level that they do? It's about student engagement in their learning. It is about today's three R's of education - Rigor, Relevance, and Relationships.

- Rigor – the demand for higher level reasoning has increased in all technical occupations, look at any job of even 10 years ago and what technology has done to it. The requirements have increased due to technology advances in the work place. CTE programs focus on national and industry standards, and those standards have increased in rigor – and it is in every industry, and those standards are updated regularly. We adopt those standards and CTE instructors keep updated due to their close ties to industry. It allows instructors to address those standards in the courses they teach.
- Relevance – Students understand the concept of industry standards, why they exist, and their importance, in short, students see relevance in what they are learning. They know why they are learning something. They see the connection with what they are learning to the world around them.
- Relationships – While this may not get as much recognition as it should, it is a great motivating factor for students. Every CTE program must provide a student leadership component, a Career and Technical Student Organization (CTSO), FFA, SkillsUSA, DECA, FBLA, FCCLA, TSA. They all enable that relationship between the student and the teacher/advisor to help create a better learning environment. Supt. Schatz of Fargo has put together and presented research that validates and values the impact that student belonging – student organizations - can have on student learning.

Key 21st Century skills have been identified by the four C's – communication, collaboration, creativity and critical thinking; career and technical education classes help develop all of these skills. These are part of the career readiness skills that employers are looking for in their employees. They are part of a project based learning approach that involves students much more deeply into their learning. The four C's are a big part of CTE programs and

their student organizations, students learn to communicate and collaborate and put their creative and critical thinking skills – all their skills - to the test in the many regional and statewide Career and Technical Student Organizations conferences, competitions, and the many community service activities they perform.

This is how we build an education system that helps students focus and find relevance in what they are learning. I believe ND has one of the best CTE systems in the country. If we want students to get engaged we need to start with a career planning, helping students find their interests and career possibilities – the CTE scholarship has really helped this process. We need to increase the access to CTE programming for students statewide, make sure that that access to CTE programming is broad enough to appeal to more students – again it is that relevance factor - getting the student engaged in their learning. It's great that a school would have an Ag program and a Family and Consumer Science program, and many schools have them, but what if that students' connection to learning ...that relevance, is in health sciences, or information technology, or aviation, to me that is why increased access to a variety of CTE programming is important.

...And I would be remiss if I didn't say that we need to make CTE more affordable for schools, the majority of CTE programs are more costly operate. In 1984 we were able to reimburse schools 40% of the cost of CTE programs, Area Centers were at 50%; through the economic downturns of the late 80's, 90's, and early 2000's those amounts were reduced to as low as 24% and 37% respectively, through your support we have rebounded slightly to a current reimbursement rate of 27% and 40%. As part of our legislative initiative we will be asking for funding to bring the states' share of CTE funding back to those higher levels.

Mr. Chairman, I would be glad to answer any questions you have about CTE.

Performance of CTE Concentrators
ND Assessment and Graduation Rates 2010 - 2013

North Dakota 2012-13	Reading Achievement Rates			Math Achievement Rates			High School Student Graduation Rates		
	CTE "Concentrators" met Proficient* level	All Students who met Proficient* level (2011-12)	Difference	CTE "Concentrators" met Proficient* level	All Students who met Proficient* level (2011-12)	Difference	CTE Graduates	All Student Graduates	Difference
Total Enrolled	84.3%	66.2%	18.1%	66.2%	57.3%	8.9%	96.0%	87.2%	8.8%
Female	87.8%	70.8%	17.0%	66.0%	55.5%	10.5%	96.0%	88.8%	7.2%
Male	81.5%	62.2%	19.3%	66.5%	59.1%	7.4%	96.0%	85.7%	10.3%
American Indian or Alaska Native	68.6%	36.9%	31.7%	48.4%	29.4%	19.0%	84.4%	62.7%	21.7%
Asian	81.8%	67.3%	14.5%	81.8%	61.1%	20.7%	84.6%	88.1%	-3.5%
Black or African American	51.3%	37.1%	14.2%	33.3%	25.9%	7.4%	91.1%	79.8%	11.3%
Hispanic or Latino	61.7%	50.0%	11.7%	58.0%	38.3%	19.7%	84.9%	77.8%	7.1%
White	85.9%	69.8%	16.1%	67.5%	60.7%	6.8%	97.0%	90.4%	6.6%
Economically Disadvantaged/Low Income	76.5%	50.1%	26.4%	59.6%	38.6%	21.0%	90.5%	69.9%	20.6%
Limited English Proficient	21.9%	15.0%	6.9%	20.5%	13.1%	7.4%	63.4%	61.0%	2.4%
Individual with Disabilities	66.8%	34.7%	32.1%	46.4%	27.5%	18.9%	82.5%	71.5%	11.0%
2011-12		(2010-11)			(2010-11)				
Total Enrolled	77.1%	64.9%	12.2%	63.7%	59.4%	4.3%	94.7%	87.0%	7.7%
Female	80.6%	69.7%	10.9%	61.7%	56.3%	5.4%	94.7%	88.7%	6.0%
Male	74.5%	60.3%	14.2%	65.0%	62.5%	2.5%	94.6%	85.5%	9.1%
American Indian or Alaska Native	57.8%	41.3%	16.5%	48.3%	30.4%	17.9%	85.2%	62.6%	22.6%
Asian	N/A	53.0%	N/A	N/A	52.2%	N/A	80.0%	86.0%	-6.0%
Black or African American	54.3%	35.2%	19.1%	33.3%	21.2%	12.1%	82.9%	75.9%	7.0%
Hispanic or Latino	57.8%	53.1%	4.7%	45.0%	39.8%	5.2%	79.2%	72.7%	6.5%
White	79.2%	68.2%	11.0%	65.3%	63.5%	1.8%	95.9%	90.4%	5.5%
Economically Disadvantaged/Low Income	68.2%	50.0%	18.2%	54.6%	42.1%	12.5%	89.8%	73.3%	16.5%
Limited English Proficient	N/A	18.1%	N/A	N/A	13.6%	N/A	65.7%	66.7%	-1.0%
Individual with Disabilities	55.5%	35.5%	20.0%	44.0%	32.1%	16.5%	81.3%	67.9%	13.4%
2010-11		(2009-10)			(2009-10)				
Total Enrolled	58.7%	63.6%	-4.9%	52.9%	55.1%	-2.2%	92.3%	86.2%	6.1%
Female	60.6%	66.1%	-5.5%	49.5%	53.0%	-3.5%	92.2%	88.0%	4.2%
Male	57.4%	61.2%	-3.8%	55.2%	57.2%	-2.0%	92.4%	84.6%	7.8%
American Indian or Alaska Native	42.9%	38.9%	4.0%	41.4%	28.7%	12.7%	77.9%	60.5%	17.4%
Asian	N/A	58.3%	N/A	N/A	57.8%	N/A	91.6%	88.5%	3.1%
Black or African American	N/A	36.8%	N/A	N/A	25.2%	N/A	64.0%	79.5%	-15.5%
Hispanic or Latino	42.5%	48.6%	-6.1%	32.5%	42.6%	-10.1%	78.7%	67.8%	10.9%
White	60.3%	66.6%	-6.3%	54.2%	58.3%	-4.1%	93.9%	89.7%	4.2%
Economically Disadvantaged/Low Income	50.4%	49.5%	0.9%	42.0%	38.9%	3.1%	87.8%	78.2%	9.6%
Limited English Proficient	N/A	32.7%	N/A	N/A	25.0%	N/A	57.7%	69.9%	-12.2%
Individual with Disabilities	39.4%	42.9%	3.91%	31.9%	34.2%	-.2%	76.8%	71.3%	5.5%

N/A = small sample size: numerator≤10

Concentrator = A CTE concentrator is a student who has earned two or more credits in a single CTE program area recognized by the state

*Students take Assessments in Grade 11 - Reported by CTE on Graduation

Source: 2011, 2012, & 2013 CTE CAR Report + 2010, 2011, 2012, & 2013 Statewide AYP Reports

Three Year Trend Data on CTE Enrollment

Enrollment of CTE Participants*	2012 -2013	2011 - 2012	2010 - 2011
GRAND TOTAL	20,791	20,936	20,983
GENDER			
Female	9,906	10,037	9,967
Male	10,885	10,899	11,016
RACE/ETHNICITY			
American Indian or Alaska Native	1,452	1,641	1,644
Asian	270	166	204
Black or African American	521	383	427
Hispanic/Latino	462	340	349
Native Hawaiian/Pacific Islander	46	16	45
White	17,898	18,155	18,219
Two or More Races	142	89	95
SPECIAL POPULATIONS			
Disability Status (ESEA/IDEA)	3,001	3,069	3,087
Economically Disadvantaged	6,216	6,619	6,619
Single Parents	9	0	15
Displaced Homemakers	0	0	0
Limited English	468	501	524
Migrant	16	0	13
Nontraditional Enrollees	8,788	8,197	8,939

Enrollment of CTE Concentrators*

Career Clusters

1 Agriculture/Natural Resources
2 Architecture/Construction
3 Arts/Audio Video Tech/Comm.
4 Business/Administration
5 Education/Training
6 Finance
7 Government/Public Admin.
8 Health Sciences
9 Hospitality/Tourism
10 Human Services
11 Information Technology
12 Law/Public Safety & Security
13 Manufacturing
14 Marketing/Sales & Service
15 STEM (Science, Tech, Eng & Math)
16 Transportation, Distribution & Logistics

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
Female	654	87	83	649	82	29	0	738	64	2,703	74	0	67	428	145	59	5,862
Male	1,515	508	97	665	1	27	0	232	39	1,085	261	0	497	581	802	852	7,162
Total 2013	**2,169**	**595**	**180**	**1,314**	**83**	**56**	**0**	**970**	**103**	**3,788**	**335**	**0**	**564**	**1,009**	**947**	**911**	**13,024**
Female	580	69	69	534	88	22	0	716	39	2,157	46	0	31	340	107	75	4,873
Male	1,669	544	85	524	4	28	0	201	35	816	251	0	397	435	624	908	6,521
Total 2012	**2,249**	**613**	**154**	**1,058**	**92**	**50**	**0**	**917**	**74**	**2,973**	**297**	**0**	**428**	**775**	**731**	**983**	**11,394**
Female	495	73	41	296	125	5	0	421	49	1,039	18	0	20	181	26	38	2,824
Male	1,753	601	28	221	10	2	0	103	44	289	108	0	309	195	148	455	4,269
Total 2011	**2,248**	**674**	**69**	**517**	**135**	**7**	**0**	**524**	**93**	**1,328**	**126**	**0**	**329**	**376**	**174**	**493**	**7,093**

*Participant - A secondary student who has completed one (1) or more course(s) in any CTE program area.
*Concentrators- A secondary student who has earned two (2) or more credits in a single CTE program area recognized by the state.

Source: 2011, 2012, 2013 CTE Federal Consolidated Annual Report (CAR)